August 24, 2012

EPA Science Advisory Board
c/o Dr. Angela Nugent
Designated Federal Officer
via email to nugent.angela@epa.gov

Re: Comments on SAB Review (7-26-12 Draft) of EPA's Accounting Framework for Biogenic CO2 Emissions from Stationary Sources (September 2011)

Dear EPA Science Advisory Board:

As a number of organizations expressed in a letter regarding the critical importance of acting quickly to reduce greenhouse gas emissions, we wish to commend and thank the members of your Biogenic Carbon Emissions Panel for their efforts to improve the EPA's Accounting Framework. Importantly, the Panel affirmed that biogenic emissions are not inherently carbon neutral, and that their impact on the atmosphere must be estimated. The Panel rightly concluded that estimating the additionality of carbon sequestration under a particular bioenergy scenario is essential, and that this requires an anticipated baseline approach.

However, we believe that in addition to the time frame, the issue of properly accounting for market effects, or "leakage", also requires further consideration before submission of the Panel's Report to the EPA Administrator.

The Panel summarized its views on leakage on page 7 of the draft report dated July 26, 2012. It reads:

> "The existing literature in the social sciences shows that the overall magnitude of leakage, associated with the use of bioenergy for fuel is highly uncertain and differs considerably across studies and within a study, depending on underlying assumptions. It will also differ by feedstock and location. Rather than eschewing the calculation of leakage altogether, the Agency might instead, try to ascertain the directionality of net leakage – whether it is positive (leading to increased carbon emissions elsewhere) or negative (leading to carbon offsetting activities) – and incorporate that information in its decision making. In some cases even net directionality may be hard to establish. In cases where prior research has indicated directionality, if not magnitude, such information should be used to explore supplementary policy approaches to prevent positive leakage at the source or to control it where it occurs."

We certainly concur with the recommendation "to explore supplementary policy approaches to prevent positive leakage". Based on a review of the literature (including Murray et al. 2004, Wear and Murray 2003, and Galik and Abt 2012), however, we are persuaded that far more can and should be done than simply incorporating information on the "directionality" of leakage into decision making.

Murray, et al. (2004) developed a method for estimating leakage from forest carbon sequestration programs – an equally, if not more challenging topic. Further, they tested their estimation method against known and substantial (43-84%) leakage resulting from reductions in timber harvesting in the western US, and found it to be accurate. Galik and Abt (2012) applied economic models to predict market effects from "increased biomass demand, including changes in forest area, forest management intensity, and traditional industry production" and calculated the results at six different scales and using four different metrics.

Certainly, this work demonstrates that it is possible to do far more than simply seeking to determine "directionality."

In light of the demonstrated fact that leakage rates can be substantial and could thus influence net emissions significantly, we encourage you to ask that this section of the report be further developed to incorporate the most accurate methods available to evaluate both the directionality and magnitude of leakage.

Sincerely,

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References

Galik, C. S., and R. C. Abt. 2012. The effect of assessment scale and metric selection on the greenhouse gas benefits of woody biomass. Nicholas Institute for Environmental Policy Solutions, Working Paper NI WP 12-02.

Murray, B. C., B. A. McCarl, and H. Lee. 2004. Estimating leakage from forest carbon sequestration programs. *Land Economics,* 80(1):109-124.

Wear, D. N., and B. C. Murray. 2004. Federal timber restrictions, interregional spillovers, and the impact on U.S. softwood markets. *Journal of Environmental Economics and Management*, 47(2):307–330.